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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,536	08/03/2005	Hartmut Grund	263107US0PCT	9701

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
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ALEXANDRIA, VA 22314

EXAMINER
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JACOBSON, MICHELE LYNN

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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11/28/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/518,536	<b>Applicant(s)</b> GRUND ET AL.	
	<b>Examiner</b> MICHELE JACOBSON	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/7/08 has been entered.

### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11, 13, 16-30

and 32-39 of copending Application No. 10/518542. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scopes of the conflicting claims both encompass a 5 layer tubular film comprised of 4 layers of polyolefin or modified polyolefin with an outer layer of polyamide. The specific polyolefins and polyamides recited in both applications are the same.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grund U.S. Patent No. 5,612,104 (hereafter referred to as Grund).

6. Grund teaches a five-layer film comprising a 1<sup>st</sup> and 5<sup>th</sup> layer of polyamide, a 3<sup>rd</sup> core layer of polyolefin and a 2<sup>nd</sup> and 4<sup>th</sup> adhesive layer between the polyolefin core layer and the polyamide layers. Useful polyamides for the 1<sup>st</sup> and 5<sup>th</sup> layer are recited to be at least one aliphatic polyamide and/or at least one aliphatic copolyamide and/or at least one partially aromatic polyamide and/or at least one partially aromatic copolyamide. (Col. 5, lines 3-5) Specifically, the homopolyamides and/or copolyamides are recited to be produced from monomers selected from the group of caprolactam,

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laurinlactam (Col. 5, line 32),  $\omega$ -aminoundecanoic acid (Col. 5, lines 29-30), adipic acid, azelaic acid, sebacic acid, decanedicarboxylic acid, dodecanedicarboxylic acid (Col. 5, lines 27-29), terephthalic acid, isophthalic acid (Col. 5 line 67-Col. 6 line 1), tetramethylenediamine, pentamethylenediamine, hexamethylenediamine, octamethylenediamine (Col. 5, lines 23-25), and xylylenediamine (Col. 5, line 53). The thickness of the inner polyamide layer is recited to be from 1-8  $\mu\text{m}$  and the outer polyamide layer thickness from 10-40  $\mu\text{m}$ . (Col. 4, lines 50 and 67)

7. Suitable polymers for the polyolefin core layer are recited to be homopolymers of ethylene or propylene or copolymers of linear  $\alpha$ -olefins having 2 to 8 C-atoms, or mixtures of these homopolymers or copolymers with one another. Particularly suitable are polyolefins having melting points of above 120° C., e.g., LLDPE, HDPE, polypropylene homopolymers, as well as polypropylene block copolymers and polypropylene random-copolymers. (Col. 6, lines 12-19) The thickness of the polyolefin core layer is recited to be from 10-30  $\mu\text{m}$ . (Col. 6, line 20)

8. Suitable polyolefins for 2<sup>nd</sup> and 4<sup>th</sup> adhesive layers are recited to be modified homo- or copolymers of ethylene and/or propylene, and optionally of further linear  $\alpha$ -olefins with 3 to 8 C-atoms having grafted thereon monomers of the group consisting of  $\alpha,\beta$ -unsaturated dicarboxylic acids, such as maleic acid, fumaric acid, itaconic acid or their acid anhydrides, acid esters, acid amides or acid imides. Additionally suitable are copolymers of ethylene or propylene and optionally of further linear  $\alpha$ -olefins with 3 to 8 C-atoms having  $\alpha,\beta$ -unsaturated carboxylic acids, such as acrylic acid, methacrylic acid and/or their metallic salts and/or their alkyl esters, or adequate graft polymers of the

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mentioned monomers on polyolefins. The thickness of the 2<sup>nd</sup> and 4<sup>th</sup> polyolefin adhesive layers is recited to be between 4-8 µm. (Col. 6, line 30)

9. The film of the invention is prepared by coextrusion and subsequent biaxial stretching and thermosetting. (Col. 6, lines 55-56) Depending on the temperatures during thermosetting, a shrinkable or non-shrinkable film may be manufactured. (Col. 7, lines 17-19) The thickness of the film of the invention is recited to be from 30-90 µm. (Claim 22) The film of the invention is recited to be useful for packaging sausage.

10. Grund does not recite a polyolefin film for the inner layer of the tubular film.

11. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced the interior 1<sup>st</sup> polyamide layer of Grund with a layer of polyolefin selected from the compositions recited to comprise the 2<sup>nd</sup> and 4<sup>th</sup> adhesive layers. Polyolefin layers are well known for their heat sealing properties in the packaging art (see for example US 5021510 or US 5759648) and replacing the polyamide layer with a polyolefin layer would have been advantageous since a polyolefin layer would be cheaper and not require a metal clamp or clip for sealing. This obvious modification would have produced the invention as claimed in claims 1-3, 5, 7-15, 17, 19-26 and 29.

12. The limitations recited in claims 1-31 are obvious variations/improvements to the invention recited by Grund. The use of a metallocene catalyst to produce the polyethylene disposed in the inner layer would have also been obvious to one of ordinary skill in the art at the time the invention was made since metallocene catalyzed polyethylenes exhibit lower melting temperatures than Zeigler-Natta catalyzed

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polymers. This property is advantageous for heat sealing applications. The production of the modified invention of Grund using metallocene catalyzed polyethylene would have produced the invention as claimed in claims 4 and 27.

13. The limitations of melting point, density and melt flow index recited in claim 6 are not specifically enumerated by Grund but are properties that would have been obvious to optimize to one of ordinary skill in the art at the time the invention was made.

14. The methods of packaging meat products recited in claims 16 and 18 would have been obvious to one having ordinary skill in the art at the time the invention was made who desired to package meat. It would have also been obvious to one of ordinary skill in the art at the time the invention was made to have produced a bag, food wrap or food package as recited in claims 17 and 20-21 since the tubular film of the invention is specifically recited to be useful for packaging.

15. Regarding claims 26, 30 and 31: The limitations of damaging energy and soiled seal strength recited by applicant in claims 26, 30 and 31 would have been inherent to the structure of Grund when modified to include a polyolefin heat seal layer since the modified structure of Grund would have been the same as that claimed by applicant.

16. Regarding claim 28: It is well known in the polymer casing art to vary the thickness of various layers of the casing in order to balance the cost of materials with the strength of the resulting package. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the thickness of the layers of the modified casing of Grund. This obvious optimization of a result effective variable would have produced the invention as claimed in claim 28.

***Response to Arguments***

17. Applicant's arguments filed 10/7/08 have been fully considered but they are not persuasive.

18. Applicant has asserted in the arguments and in the affidavit filed by Dr. Grund that one of ordinary skill in the art would not have reasonably expected that the inclusion of a polyolefin heat seal film would have resulted in a casing with improved resistance to bone puncture. Applicant asserts on page 13 of the remarks that "there is no requirement under the patent laws or patent rules of the United States that unexpected results probative of the patentability of an invention must be recited in the claims". MPEP 716.02(c) states "Whether the unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, the "objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support." See *In re Harris*, 409 F.3d 1339, 1344 (Fed. Cir. 2005)<sup>2</sup>. See also, *In re Costello*, 480 F.2d 894, 897 (CCPA 1973). In the instant case, applicant has presented evidence of unexpected results consisting of values and properties not present in the claims. Additionally, applicant's evidence does not satisfy this requirement because the data presented in the specification is limited to casings with very specific compositions and layer thicknesses that are much more specific than those claimed in the claims. Applicant has only presented evidence for improved puncture resistance for casings comprising a polyethylene interior layer. Applicant's invention claimed in claims 1-3 and 5-31 requires only a generic polyolefin interior layer,



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not specifically a metallocene catalyzed polyethylene or modified polyethylene as recited in the specification. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)

19. Additionally, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). In the instant case, applicant has not refuted that one of ordinary skill in the art would have been motivated to utilize a polyolefin film as the interior layer of the sausage casing recited by Grund to improve the heat seal properties of the casing. As stated in MPEP 2144 [R-6] I.V. "It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See, e.g., *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)". If the prior art compound does in fact possess a particular benefit, even though the benefit is not recognized in the prior art, applicant's recognition of the benefit is not in itself sufficient to distinguish the claimed compound from the prior art. *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991) (MPEP 2144.09 VII). While the prior art is silent regarding the puncture resistance, one of ordinary skill would have arrived at the same invention claimed even though motivated by the different beneficial property of improved heat seal properties. A casing of the same structure would inherently possess the damage resistance properties claimed by applicant.

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20. Applicant has stated on page 3 of the affidavit that there is a long-felt but unsatisfied need for packaging bone-in meat products. To support this opinion, applicant has relied on personal opinions and publications that state the current bone-in meat packaging requires improvement with regard to bone puncture. As stated in MPEP 716.04 [R-2] I. in order to establish a long-felt need "the long-felt need must not have been satisfied by another before the invention by applicant. *Newell Companies v. Kenney Mfg. Co.*, 864 F.2d 757, 768, 9 USPQ2d 1417, 1426 (Fed. Cir. 1988) Since packaging for bone-in meat products existed at the time the invention was made, the examiner takes the position that a need for such packaging cannot be considered unsatisfied.

21. Applicant's presentation of stress-strain data for LDPE and Nylon 6 films presented on page 4 of the affidavit and arguments presented on pages 4 and 5 of the affidavit have been fully considered but are not considered persuasive. As stated above, it is not necessary for the prior art to recognize additional benefits that would naturally flow from the combination suggested by the prior art.

22. Alternatively, the data applicant has chosen to represent the tensile strength at break in the TD and MD for nylon 6 and LDPE is average data. The actual ranges shown in the tables submitted for these values for nylon 6 are MD = 32.0-379 MPa and TD = 29.0-303 MPa. For LDPE the ranges are MD = 14.0-72.0 MPa and TD = 11.0 - 57.0. Although the averages are higher for Nylon 6, there is overlap between the values for tensile strength at break for Nylon 6 and LDPE. Since there is overlap between these ranges, one of ordinary skill would have recognized that selecting a LDPE with a

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higher tensile strength at break than a similar Nylon 6 would have produced a casing with improved puncture resistance with the added benefit of good heat seal properties. Applicant has not presented data comparing the tensile strength at break values of the specific polymers disclosed in the examples. A comparison for these specific polymers showing that the tensile strength of the polyethylene polymer is actually less than the tensile strength for the polyamide 6/12 blended with ionomer polymer used for the example would be necessary to establish that the increase in puncture resistance was truly unexpected.

23. The examiner also notes that the films recited in applicant's specification for comparison to the films of Grund do not comprise the same polyamide layers as recited by Grund. Grund recites blends of PA6 and MXD6 for the interior and exterior layers of the packaging. The polyamide layers recited by applicant in comparative example 1 comprise polyamide6/12 blended with ionomer resin. It is well known in the polymer arts that MXD6 is a polymer of superior strength. Applicant is claiming unexpectedly good puncture resistance compared to the prior art, but has not provided comprehensive evidence that the puncture resistance of the claimed invention is indeed superior to the puncture resistance of the bag that is disclosed in the prior art.

24. Additionally, applicant has not provided data for the puncture resistance of individual films consisting of a polyamide layer as recited by Grund and a film consisting of the polyethylene interior layer as recited by applicant. In order to determine if the puncture resistance results were truly unexpected, one must evaluate the puncture resistance of the individual films to see which film behaved more favorably.

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25. Additionally, it is the examiner's opinion that polyethylene films were known in the polymer packaging art to possess beneficial puncture resistant properties. Lind et al, U.S. Patent No. 6,677,012, states that polyethylene polymers produced with metallocene catalysts possess "increased strength, particularly seal, burst, impact and puncture". (Col. 3, lines 6-10) Wilson, U.S. Patent No. 5,419,934, states that "the excellent toughness and puncture resistance properties of LLDPE makes it an excellent resin" for such applications as packaging. (Col. 2, lines 24-29) Lustig et al, U.S. Patent No. 5,256,428, discloses a "film composition compris[ing] a biaxially stretched multilayer film containing a very low density polyethylene copolymer ... because these films have improved tensile strengths, ultimate elongation and puncture strength properties, and are heat-shrinkable. Such multilayer films are especially suitable for use in fabricating heat-shrinkable bags for packaging primal meat cuts and processed meats." (Col 14, lines 61-68) It was also known in the meat packaging art to use protective patches comprising interior films of polyethylene for a biaxially heat shrinkable, thermoplastic vacuum bag for protecting the bag from puncture by sharp protruding bones in bone-in cuts of meat which are vacuum packaged within the bags. (Ferguson, U.S. Patent No. 4,755,403, abstract) It would have been obvious to one having ordinary skill in the art at the time the invention was made to have tried a polyethylene film for the interior layer recited by Grund for the heat seal properties and for the beneficial puncture resistant properties.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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